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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/786,833	06/18/2001	Ewald Karl Michael Guenther	1240612001	6094

26181 7590 03/02/2004

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EXAMINER	
ANDUJAR, LEONARDO	
ART UNIT	**PAPER NUMBER**
2826	

DATE MAILED: 03/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/786,833	GUENTHER ET AL.	
	Examiner	Art Unit	
	Leonardo Andújar	2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12/22/2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-50,86-93 and 95-100* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-50,86-93 and 95-100* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *12/03* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/22/2003 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claims 18, 32 and 45 recite the limitation "the device" in line 4. It is not clear what applicant means by "the device". Note that the whole claimed structure has being labeled as "the device". Therefore, it is not clear if the sealant is on a surface of the laminate substrate that may be in contact with another device (e.g. a bottom surface) or it is on a surface of the laminate substrate that is contact with the active components (e.g. top surface). In this case, it not clear how a second laminate which is at the bottom surface of the substrate may have a sealant on a surface that is in contact with

the active components which are atop of the substrate. A proper structural relationship among the device elements cannot be properly established.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

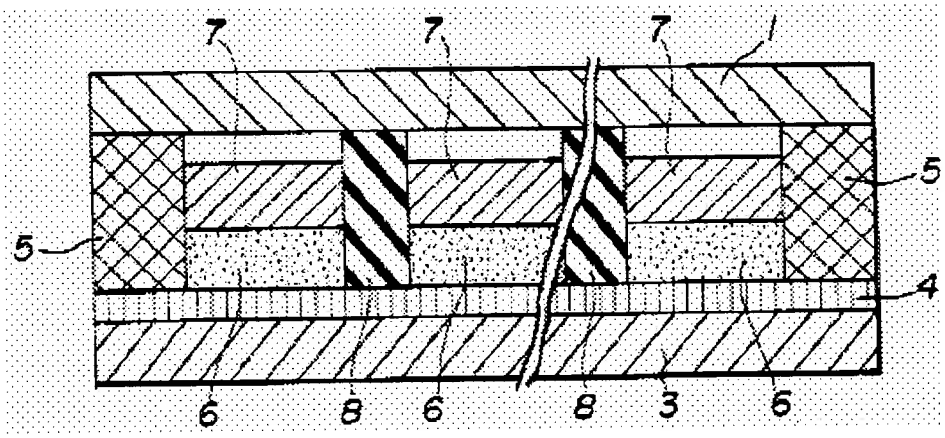
The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1-16 and 95-100 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi et al. (US 5,804,917).

7. Regarding claim 1, Takahashi (e.g. figs. 1 and 2) shows a device comprising:

- A substrate 3;
- At least two active component 6/7 formed on a top surface of the substrate;
- At least one non active region separating the active components;

- A first laminate 1 over the top surface of the substrate, encapsulating the active component;
- And at least one support post 8 in the non-active regions of the device, providing support for the first laminate.



8. Regarding claims 2, Takahashi shows that the device comprises an OLED device (abstract).

9. Regarding claim 3, Takahashi shows that the substrate supports the active component.

10. Regarding claim 4, Takahashi discloses that the substrate comprises a flexible substrate such as glass (col. 1/ll. 17).

11. Regarding claim 5, Takahashi discloses that the substrate comprises a substrate made of glass (col. 1/ll. 17).).

12. Regarding claim 6, Takahashi discloses that the substrate comprises a transparent substrate such as glass (col. 1/ll. 17).

13. Regarding claim 7, Takahashi discloses that the substrate comprises a substrate made of glass (col. 1/ll. 17).

14. Regarding claim 8, Takahashi discloses that the substrate comprises a flexible transparent substrate such as glass (col. 1/ll. 17).

15. Regarding claim 9, Takahashi discloses that the substrate comprises a substrate made of glass (col. 1/ll. 17).

16. Regarding claim 10, Takahashi shows that the substrate supports the active component.

17. Regarding claim 11, Takahashi discloses that the substrate comprises a flexible substrate such as glass (col. 1/ll. 17).

18. Regarding claim 12, Takahashi discloses that the substrate comprises a substrate made of as glass (col. 1/ll. 17).

19. Regarding claim 13 Takahashi discloses that the substrate comprises a transparent substrate such as glass (col. 1/ll. 17).

20. Regarding claim 14, Takahashi discloses that the substrate comprises a substrate made of glass (col. 1/ll. 17).

21. Regarding claim 15, Takahashi discloses that the substrate comprises a flexible transparent substrate such as glass (col. 1/ll. 17).

22. Regarding claim 16, Takahashi discloses that the substrate comprises a substrate made of glass (col. 1/ll. 17).

23. Regarding claim 95, Takahashi shows a cavity between the first laminate and the active component. Also, the support ports support areas of the first laminated that are arranged above the cavity.

24. Regarding claim 96, Takahashi shows additional support post 5 in the periphery of the device, surrounding the active components.

25. Regarding claim 97, Takahashi shows a cavity between the first laminated and the active components wherein the height of the support is grater than the height of the active components. Also, the first laminate spans the cavity.

26. Regarding claim 98, Takahashi shows that the at least one support post prevents the first laminate from contacting the active components.

27. Regarding claim 99, Takahashi (e.g. figs. 1 and 2) shows a device comprising:

- A substrate 3;
- At least one active component 6/7 formed on a top surface of the substrate;
- A first laminate 1 over the top surface of the substrate, encapsulating the active component, wherein the laminate is a sheet of uniform thickness;
- And at least one support post 8 in non-active regions of the device, providing support for the first laminate.

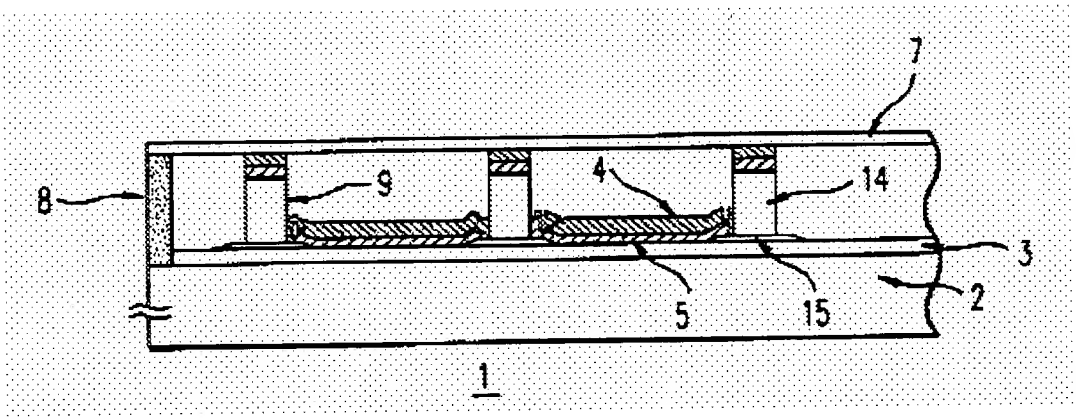
28. Regarding claim 100, Takahashi shows a second active 6/7 component and at least one non-active region separation the first and second active components where the non-active region includes a region on the substrate where two electrodes do not intersect.

29. Claims 1-16, 86-93 and 95-100 are rejected under 35 U.S.C. 102(e) as being anticipated by Matsuura et al. (US 6,175,186).

30. Regarding claim 1, Matsuura (e.g. figs. 1 and 2) shows a device comprising:

- A substrate 2;

- At least two active component 4/5 formed on a top surface of the substrate;
- At least one non active region separating the active components;
- A first laminate 7 over the top surface of the substrate, encapsulating the active component;
- And at least one support post 9 in the non-active regions of the device, providing support for the first laminate.



31. Regarding claims 2, Matsuura shows that the device comprises an OLED device (abstract).

32. Regarding claim 3, Matsuura shows that the substrate supports the active component.

33. Regarding claim 4, Matsuura discloses that the substrate comprises a flexible substrate such as glass (col. 10/ll. 21).

34. Regarding claim 5, Matsuura discloses that the substrate comprises a substrate made of glass (col. 10/ll. 21).

35. Regarding claim 6, Matsuura discloses that the substrate comprises a transparent substrate such as glass (col. 10/ll. 21).

36. Regarding claim 7, Matsuura discloses that the substrate comprises a substrate made of glass (col. 10/ll. 21).

37. Regarding claim 8, Matsuura discloses that the substrate comprises a flexible transparent substrate such as glass (col. 10/ll. 21).

38. Regarding claim 9, Matsuura discloses that the substrate comprises a substrate made of glass (col. 10/ll. 21).

39. Regarding claim 10, Matsuura shows that the substrate supports the active component.

40. Regarding claim 11, Matsuura discloses that the substrate comprises a flexible substrate such as glass (col. 10/ll. 21).

41. Regarding claim 12, Matsuura discloses that the substrate comprises a substrate made of as glass (col. 10/ll. 21).

42. Regarding claim 13 Matsuura discloses that the substrate comprises a transparent substrate such as glass (col. 10/ll. 21).

43. Regarding claim 14, Matsuura discloses that the substrate comprises a substrate made of glass (col. 10/ll. 21).

44. Regarding claim 15, Matsuura discloses that the substrate comprises a flexible transparent substrate such as glass (col. 10/ll. 21).

45. Regarding claim 16, Matsuura discloses that the substrate comprises a substrate made of glass (col. 10/ll. 21).

46. Regarding claims 86-88, Matsumura shows a that the alt least one support my comprise a directly or indirectly photopatternable material such as fluorinated

polyimides, polyolefin, fluorine-based polymers, polyquinoline, SiO, SiO.2, fluorine-added SiO_2 and $Al._2 O._3$., SiN_y ($1< y < 4/3$), SiON and AlSiON (col. 6/lls. 13-23).

47. Regarding claims 89-90, Matsumura shows that the at least one support post comprises a multi layer architecture having at least first and second support layers (4, 5, 14, 15).

48. Regarding claims 91-92, Matsumura shows that the first support layer comprises a dielectric material to provide electrical isolation for the active components (col. 6/lls. 3-23).

49. Regarding claims 93, Matsumura shows that the first and second support layers may comprise a directly or indirectly photopatternable material such as fluorinated polyimides, polyolefin, fluorine-based polymers, polyquinoline, SiO, SiO_2, fluorine-added SiO_2 and $Al_2 O_3$, SiN_y ($1< y < 4/3$), SiON and AlSiON (col. 6/lls. 13-23).

50. Regarding claim 95, Matsuura shows a cavity between the first laminate and the active component. Also, the support ports support areas of the first laminated that are arranged above the cavity.

51. Regarding claim 96, Matsuura shows additional support post 5 in the periphery of the device, surrounding the active components.

52. Regarding claim 97, Matsuura shows a cavity between the first laminated and the active components wherein the height of the support is grater than the height of the active components. Also, the first laminate spans the cavity.

53. Regarding claim 98, Matsuura shows that the at least one support post prevents the first laminate from contacting the active components.

54. Regarding claim 99, Matsuura (e.g. figs. 1 and 2) shows a device comprising:

- A substrate 3;
- At least one active component 6/7 formed on a top surface of the substrate;
- A first laminate 1 over the top surface of the substrate, encapsulating the active component, wherein the laminate is a sheet of uniform thickness;
- And at least one support post 8 in a non-active regions of the device, providing support for the first laminate.

55. Regarding claim 100, Matsuura shows a second active 6/7 component and at least one non-active region separation the first and second active components where the non-active region includes a region on the substrate where two electrodes do not intersect.

Claim Rejections - 35 USC § 103

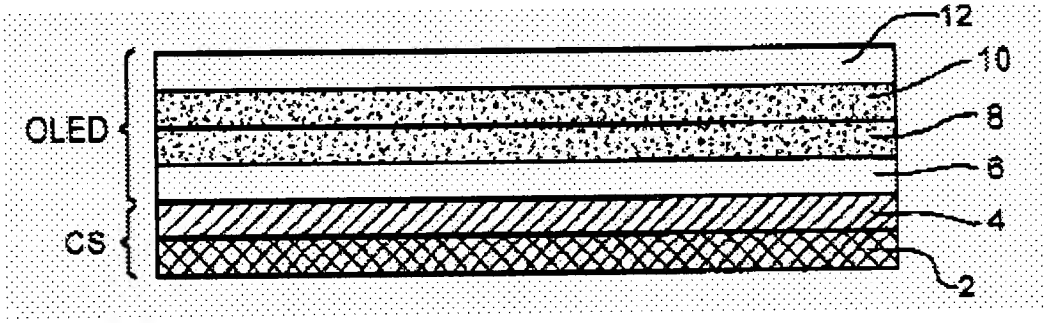
56. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

57. Claims 17-21, 29-35, 43-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (US 5,804,917) in view of Burroughes et al. (US 6,592,969).

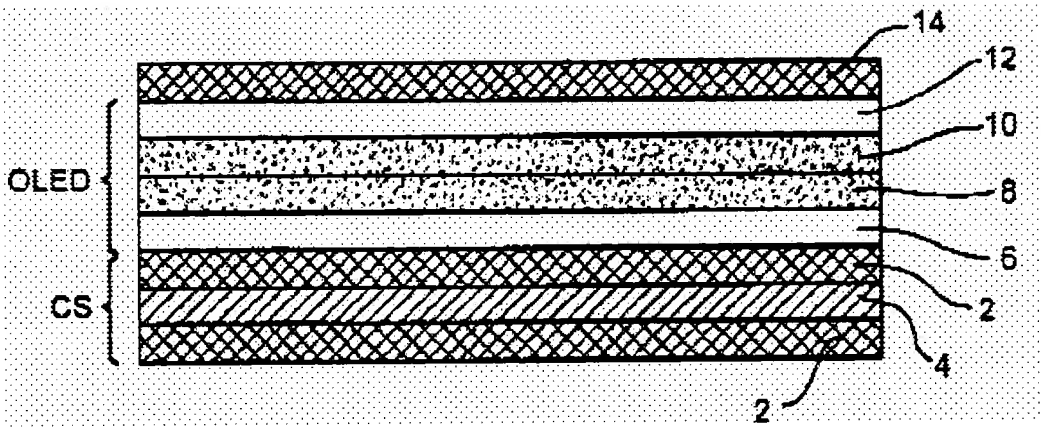
58. Regarding claim 17, Takahashi shows most aspects of the instant invention including a transparent substrate. Takahashi does not show a substrate having a second laminated on a bottom surface of the substrate, wherein the laminate comprises

a transparent laminate. Burroughes (e.g. fig. 1) shows a transparent laminated substrate (CS) comprising a second laminated 2 on a bottom surface a substrate 4, wherein the laminate comprises a transparent laminate (abstract). According to Burroughes, this type of laminate substrate provides good protection form the ingress of ambient species that can react with the device active layer. Also, it is flexible, easy to handle and to manufacture (col. 1/lls. 31-col. 2/ll. 24).



It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the laminated substrate disclosed by Burroughes in Takahashi's invention since this type of substrate provides good protection form the ingress of ambient species that can react with the device active layer, it is flexible, easy to handle and to manufacture a suggested by Burroughes.

59. Regarding claim 18 (as understood), Takahashi in view of Burroughes shows most aspects of the instant invention. Burroughes (e.g. fig. 3) shows a substrate 2, having a second laminate 4 on a bottom surface of the substrate. The second laminate comprises a laminated substrate 2. Also, Burroughes discloses a sealant on a surface of the laminated substrate that contacts second laminates (col. 3/ll. 66-col.4/ll. 4).



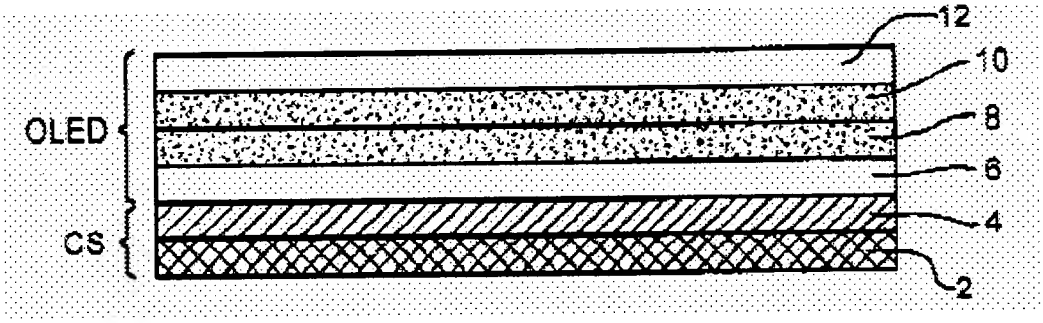
Takahashi does not show that the first laminate 1 has a laminated substrate. Burroughes (e.g. fig. 5) shows a transparent laminated substrate (CS) comprising a first laminate 4 and a laminated substrate 2. According to Burroughes, this type of laminate substrate provides good protection form the ingress of ambient species that can react with the device active layer. Also, it is flexible, easy to handle and to manufacture (col. 1/lls. 31-col. 2/ll. 24). It would have been obvious to one of ordinary skill in the art at the time the invention was made to form a laminate substrate on the first laminate disclosed by Takahashi since this type of lamination provides good protection form the ingress of ambient species that can react with the device active layer, it is flexible, easy to handle and to manufacture a suggested by Burroughes.

60. Regarding claims 19-21, Burroughes discloses that the laminated substrate can be of e.g. polyesters, polycarbonate, polyvinylbuterate, polyethylene and substituted polyethylenes, polyhydroxybutyrates, polyhydroxyvinylbutyrates, polyetherimides, polyamides, polyethylenenaphalate, polyamides, polyethers, polysulphones, polyvinylacetylenes, transparent thermoplastics, transparent polybutadienes,

polycyanoacrylates, cellulose-based polymers, polyacrylates and polymethacrylates, polyvinylalcohol, polysulphides and polysiloxanes (col. 3/lls. 52-61).

61. Regarding claims 29-30, Burroughes discloses the use of a barrier layer on the laminates; the barrier layer inhibits the diffusion of air or moisture wherein the barrier comprises indium tin oxide (col. 1/lls.54-60).

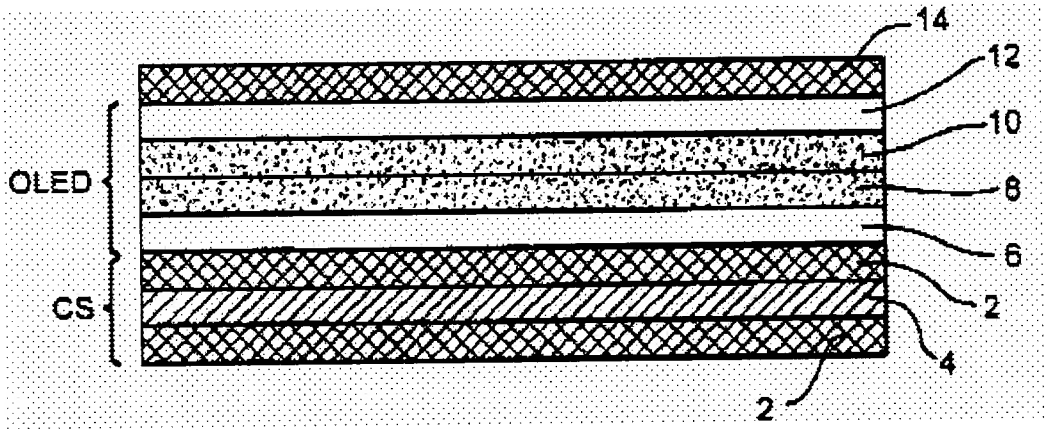
62. Regarding claim 31, Takahashi shows most aspects of the instant invention including a transparent substrate. Takahashi does not show a substrate having a second laminated on a bottom surface of the substrate, wherein the laminate comprises a transparent laminate. Burroughes (e.g. fig. 1) shows a transparent laminated substrate (CS) comprising a second laminated 2 on a bottom surface a substrate 4, wherein the laminate comprises a transparent laminate (abstract). According to Burroughes, this type of laminate substrate provides good protection form the ingress of ambient species that can react with the device active layer. Also, it is flexible, easy to handle and to manufacture (col. 1/lls. 31-col. 2/ll. 24).



It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the laminated substrate disclosed by Burroughes in Takahashi's invention since this type of substrate provides good protection form the

ingress of ambient species that can react with the device active layer, it is flexible, easy to handle and to manufacture a suggested by Burroughes.

63. Regarding claim 32 (as understood), Takahashi in view of Burroughes shows most aspects of the instant invention. Burroughes (e.g. fig. 3) shows a substrate 2, having a second laminate 4 on a bottom surface of the substrate. The second laminate comprises a laminated substrate 2. Also, Burroughes discloses a sealant on a surface of the laminated substrate that contacts second laminates (col. 3/ll. 66-col.4/ll. 4).



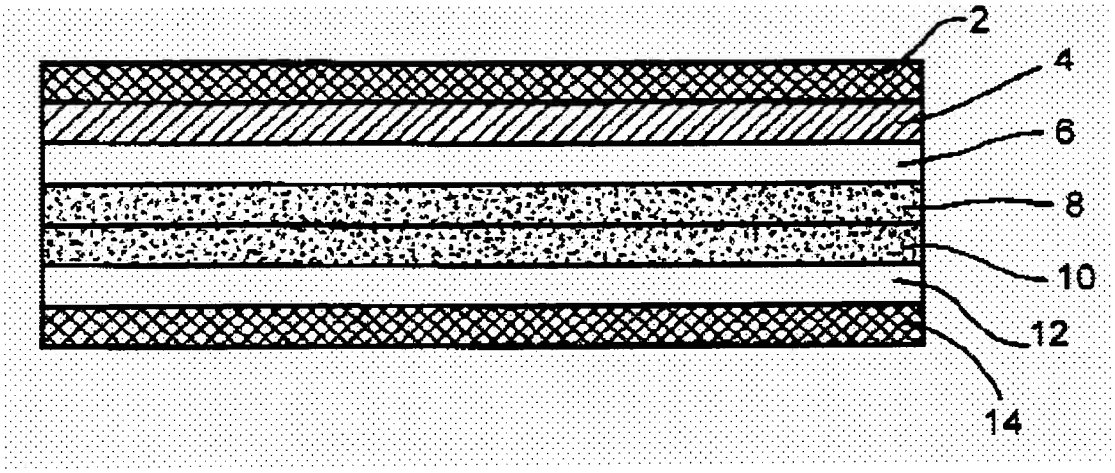
Takahashi does not show that the first laminate 1 has a laminated substrate. Burroughes (e.g. fig. 5) shows a transparent laminated substrate (CS) comprising a first laminate 4 and a laminated substrate 2. According to Burroughes, this type of laminate substrate provides good protection form the ingress of ambient species that can react with the device active layer. Also, it is flexible, easy to handle and to manufacture (col. 1/lls. 31-col. 2/ll. 24). It would have been obvious to one of ordinary skill in the art at the time the invention was made to form a laminate substrate on the first laminate disclosed by Takahashi since this type of lamination provides good protection form the ingress of

ambient species that can react with the device active layer, it is flexible, easy to handle and to manufacture a suggested by Burroughes.

64. Regarding claims 33-35, Burroughes discloses that the laminated substrate can be of e.g. polyesters, polycarbonate, polyvinylbuterate, polyethylene and substituted polyethylenes, polyhydroxybutyrates, polyhydroxyvinylbutyrates, polyetherimides, polyamides, polyethylenenaphalate, polyamides, polyethers, polysulphones, polyvinylacetylenes, transparent thermoplastics, transparent polybutadienes, polycyanoacrylates, cellulose-based polymers, polyacrylates and polymethacrylates, polyvinylalcohol, polysulphides and polysiloxanes (col. 3/lls. 52-61).

65. Regarding claims 43 and 44, Burroughes discloses the use of a barrier layer on the laminates; the barrier layer inhibits the diffusion of air or moisture wherein the barrier comprises a metal oxide such as indium tin oxide (col. 1/lls.54-60).

66. Regarding claim 45 (as understood), Takahashi shows most aspects of the instant invention including a first laminate 1. Takahashi does not show that the first laminate 1 has a laminated substrate. Burroughes (e.g. fig. 5) shows a transparent laminated substrate (CS) comprising a first laminate 4 and a laminated substrate 2. According to Burroughes, this type of laminate substrate provides good protection form the ingress of ambient species that can react with the device active layer. Also, it is flexible, easy to handle and to manufacture (col. 1/lls. 31-col. 2/ll. 24). Burroughes discloses a sealant on a surface of the laminated substrate that faces the device (col. 3/ll. 66-col.4/ll. 4).

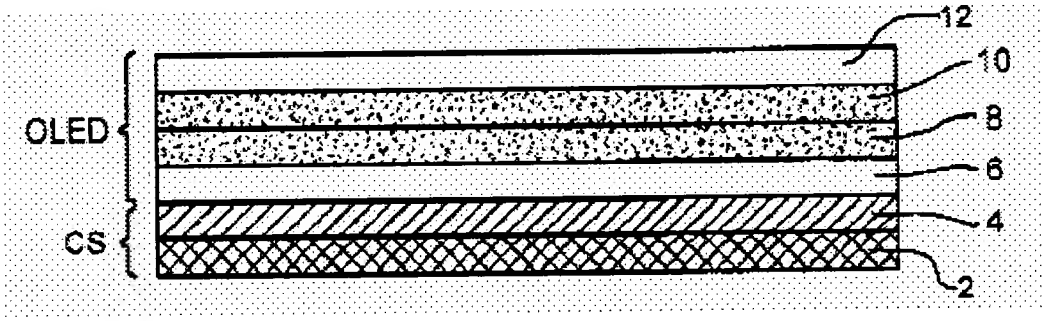


It would have been obvious to one of ordinary skill in the art at the time the invention was made to form a laminate substrate on the first laminate disclosed by Takahashi since this type of lamination provides good protection form the ingress of ambient species that can react with the device active layer, it is flexible, easy to handle and to manufacture a suggested by Burroughes and to include a sealant on a surface of the laminated substrate that faces the device in order to assure the integrity of the device.

67. Regarding claim 46, Burroughes discloses that the laminated substrate can be of e.g. polyesters, polycarbonate, polyvinylbuterate, polyethylene and substituted polyethylenes, polyhydroxybutyrates, polyhydroxyvinylbutyrates, polyetherimides, polyamides, polyethylenenaphalate, polyamides, polyethers, polysulphones, polyvinylacetylenes, transparent thermoplastics, transparent polybutadienes, polycyanoacrylates, cellulose-based polymers, polyacrylates and polymethacrylates, polyvinylalcohol, polysulphides and polysiloxanes (col. 3/lls. 52-61).

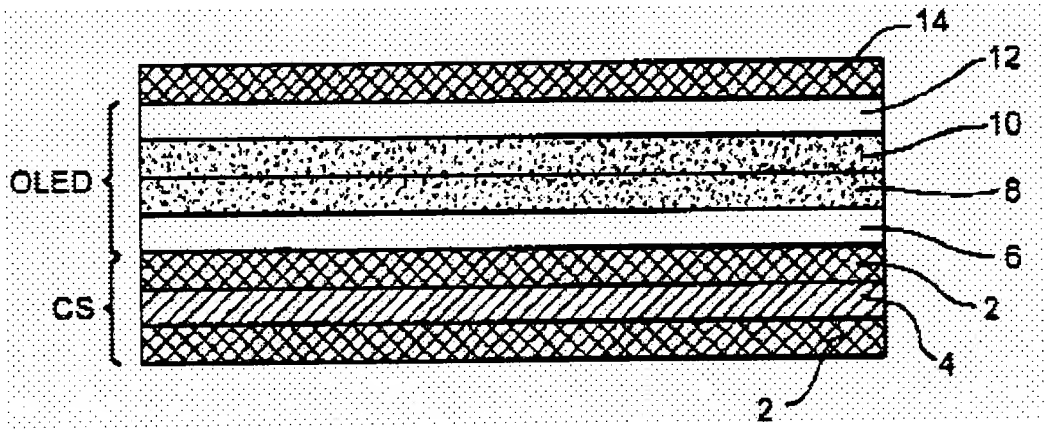
68. Claims 17-21, 29-35 and 43-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuura et al. (US 6,175,186) in view of Burroughes et al. (US 6,592,969).

69. Regarding claim 17, Matsuura shows most aspects of the instant invention including a transparent substrate. Matsuura does not show a substrate having a second laminated on a bottom surface of the substrate, wherein the laminate comprises a transparent laminate. Burroughes (e.g. fig. 1) shows a transparent laminated substrate (CS) comprising a second laminated 2 on a bottom surface a substrate 4, wherein the laminate comprises a transparent laminate (abstract). According to Burroughes, this type of laminate substrate provides good protection form the ingress of ambient species that can react with the device active layer. Also, it is flexible, easy to handle and to manufacture (col. 1/lls. 31-col. 2/ll. 24).



It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the laminated substrate disclosed by Burroughes in Matsuura's invention since this type of substrate provides good protection form the ingress of ambient species that can react with the device active layer, it is flexible, easy to handle and to manufacture a suggested by Burroughes.

70. Regarding claim 18 (as understood), Matsuura in view of Burroughes shows most aspects of the instant invention. Burroughes (e.g. fig. 3) shows a substrate 2, having a second laminate 4 on a bottom surface of the substrate. The second laminate comprises a laminated substrate 2. Also, Burroughes discloses a sealant on a surface of the laminated substrate that contacts second laminates (col. 3/ll. 66-col.4/ll. 4).

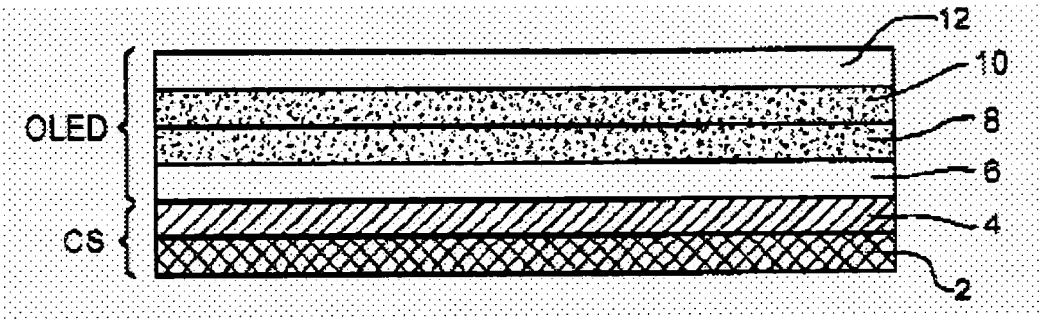


Matsuura does not show that the first laminate 7 has a laminated substrate. Burroughes (e.g. fig. 5) shows a transparent laminated substrate (CS) comprising a first laminate 4 and a laminated substrate 2. According to Burroughes, this type of laminate substrate provides good protection form the ingress of ambient species that can react with the device active layer. Also, it is flexible, easy to handle and to manufacture (col. 1/lls. 31-col. 2/ll. 24). It would have been obvious to one of ordinary skill in the art at the time the invention was made to form a laminate substrate on the first laminate disclosed by Matsuura since this type of lamination provides good protection form the ingress of ambient species that can react with the device active layer, it is flexible, easy to handle and to manufacture a suggested by Burroughes.

71. Regarding claims 19-21, Burroughes discloses that the laminated substrate can be of e.g. polyesters, polycarbonate, polyvinylbuterate, polyethylene and substituted polyethylenes, polyhydroxybutyrates, polyhydroxyvinylbutyrates, polyetherimides, polyamides, polyethylenenaphalate, polyamides, polyethers, polysulphones, polyvinylacetylenes, transparent thermoplastics, transparent polybutadienes, polycyanoacrylates, cellulose-based polymers, polyacrylates and polymethacrylates, polyvinylalcohol, polysulphides and polysiloxanes (col. 3/lls. 52-61).

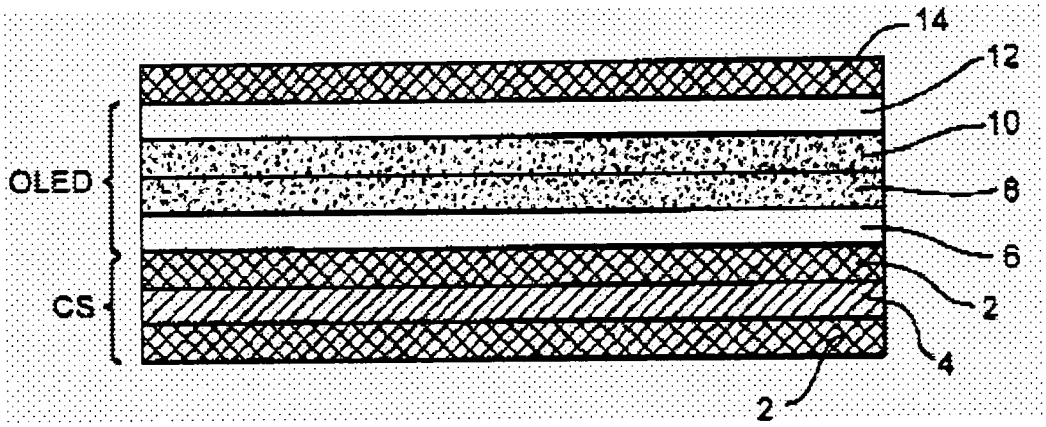
72. Regarding claims 29-30, Burroughes discloses the use of barrier layer on the laminates; the barrier layer inhibits the diffusion of air or moisture wherein the barrier comprises indium tin oxide (col. 1/lls.54-60).

73. Regarding claim 31, Matsuura shows most aspects of the instant invention including a transparent substrate. Matsuura does not show a substrate having a second laminated on a bottom surface of the substrate, wherein the laminate comprises a transparent laminate. Burroughes (e.g. fig. 1) shows a transparent laminated substrate (CS) comprising a second laminated 2 on a bottom surface a substrate 4, wherein the laminate comprises a transparent laminate (abstract). According to Burroughes, this type of laminate substrate provides good protection form the ingress of ambient species that can react with the device active layer. Also, it is flexible, easy to handle and to manufacture (col. 1/lls. 31-col. 2/ll. 24).



It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the laminated substrate disclosed by Burroughes in Matsuura's invention since this type of substrate provides good protection form the ingress of ambient species that can react with the device active layer, it is flexible, easy to handle and to manufacture a suggested by Burroughes.

74. Regarding claim 32 (as understood), Matsuura in view of Burroughes shows most aspects of the instant invention. Burroughes (e.g. fig. 3) shows a substrate 2, having a second laminate 4 on a bottom surface of the substrate. The second laminate comprises a laminated substrate 2. Also, Burroughes discloses a sealant on a surface of the laminated substrate that contacts second laminates (col. 3/ll. 66-col.4/ll. 4).



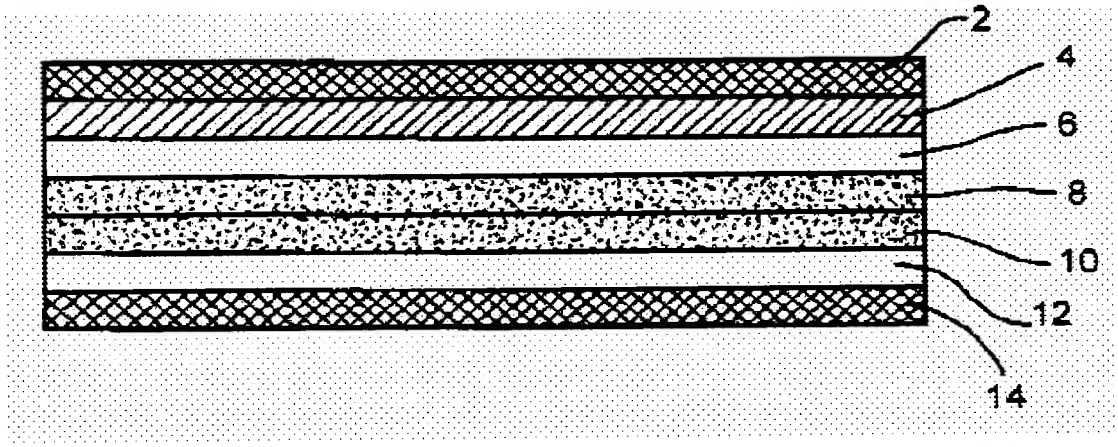
Matsuura does not show that the first laminate 7 has a laminated substrate. Burroughes (e.g. fig. 5) shows a transparent laminated substrate (CS) comprising a first laminate 4 and a laminated substrate 2. According to Burroughes, this type of laminate substrate provides good protection form the ingress of ambient species that can react with the device active layer. Also, it is flexible, easy to handle and to manufacture (col. 1/lls. 31-col. 2/ll. 24). It would have been obvious to one of ordinary skill in the art at the time the invention was made to form a laminate substrate on the first laminate disclosed by Matsuura since this type of lamination provides good protection form the ingress of ambient species that can react with the device active layer, it is flexible, easy to handle and to manufacture a suggested by Burroughes.

75. Regarding claims 33-35, Burroughes discloses that the laminated substrate can be of e.g. polyesters, polycarbonate, polyvinylbuterate, polyethylene and substituted polyethylenes, polyhydroxybutyrates, polyhydroxyvinylbutyrates, polyetherimides, polyamides, polyethylenenaphalate, polyamides, polyethers, polysulphones, polyvinylacetylenes, transparent thermoplastics, transparent polybutadienes, polycyanoacrylates, cellulose-based polymers, polyacrylates and polymethacrylates, polyvinylalcohol, polysulphides and polysiloxanes (col. 3/lls. 52-61).

76. Regarding claims 43 and 44, Burroughes discloses the use of barrier layer on the laminates; the barrier layer inhibits the diffusion of air or moisture wherein the barrier comprises a metal oxide such as indium tin oxide (col. 1/lls.54-60).

77. Regarding claim 45 (as understood), Matsuura shows most aspects of the instant invention including a first laminate 7. Matsuura does not show that the first laminate 7

has a laminated substrate. Burroughes (e.g. fig. 5) shows a transparent laminated substrate (CS) comprising a first laminate 4 and a laminated substrate 2. According to Burroughes, this type of laminate substrate provides good protection form the ingress of ambient species that can react with the device active layer. Also, it is flexible, easy to handle and to manufacture (col. 1/lls. 31-col. 2/ll. 24). Burroughes discloses a sealant on a surface of the laminated substrate that faces the device (col. 3/ll. 66-col.4/ll. 4).



It would have been obvious to one of ordinary skill in the art at the time the invention was made to form a laminate substrate on the first laminate disclosed by Matsuura since this type of lamination provides good protection form the ingress of ambient species that can react with the device active layer, it is flexible, easy to handle and to manufacture a suggested by Burroughes and to include a sealant on a surface of the laminated substrate that faces the device in order to assure the integrity of the device.

78. Regarding claim 46, Burroughes discloses that the laminated substrate can be of e.g. polyesters, polycarbonate, polyvinylbuterate, polyethylene and substituted polyethylenes, polyhydroxybutyrates, polyhydroxyvinylbutyrates, polyetherimides,

polyamides, polyethylenenaphalate, polyamides, polyethers, polysulphones, polyvinylacetylenes, transparent thermoplastics, transparent polybutadienes, polycyanoacrylates, cellulose-based polymers, polyacrylates and polymethacrylates, polyvinylalcohol, polysulphides and polysiloxanes (col. 3/lls. 52-61).

79. Claims 22-28, 36-42 and 47-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuura et al. (US 6,175,186) in view of Burroughes et al. (US 6,592,969) further in view of Tahon et al. (US 6,309,901).

80. Regarding claims 22 and 23, Matsuura in view of Burroughes shows most aspects of the instant invention including a sealant (see Burroughes col. 3/ll. 66-col.4/ll. 4). However, Burroughes does not explicitly disclose examples of suitable materials. Tahon teaches that polyurethane, polyethylene, poly(methylacrylate) or ethylene-vinyl acetate (EVA) are suitable sealants for laminated devices such as OLED and LCD (col. 4/lls. 29-44). Among these sealant EVA is more preferable for its high transparency and availability of diversified types, and being adhesive to a variety of optical films and suffering less temporal changes and aging. It would have been obvious to one of ordinary skill in the art at the time the invention was made use any suitable laminating sealants such as polyurethane, polyethylene, poly(methylacrylate) or ethylene-vinyl acetate (EVA) in the device disclosed by Matsuura in view of Burroughes as suggested Tahon and more preferable to use EVA for its high transparency and availability of diversified types, and being adhesive to a variety of optical films and suffering less temporal changes and aging. Although Matsuura in view of Burroughes in view of Tahon does not explicitly disclose that EVA comprises an activation temperature (i.e. 80

to 140 °C) which cause to sealant to flow to ensure sealing between the laminated substrate and the device these limitations are considered to be inherent properties of EVA.

81. Regarding claims 24-26, Burroughes discloses the use of a barrier layer on the laminates; the barrier layer inhibits the diffusion of air or moisture wherein the barrier comprises a metal oxide such as indium tin oxide (col. 1/lls.54-60).

82. Regarding claims 27-28, although Matsuura in view of Burroughes in view of Tahon does not explicitly disclose that EVA comprises an activation temperature (i.e. 80 to 140 °C) which cause to sealant to flow to ensure sealing between the laminated substrate and the device these limitations are considered to be inherent properties of EVA.

83. Regarding claims 36 and 37, Matsuura in view of Burroughes shows most aspects of the instant invention including a sealant (see Burroughes col. 3/ll. 66-col.4/ll. 4). However, Burroughes does not explicitly disclose examples of suitable materials. Tahon teaches that polyurethane, polyethylene, poly(methylacrylate) or ethylene-vinyl acetate (EVA) are suitable sealants for laminated devices such as OLED and LCD (col. 4/lls. 29-44). Among these sealant EVA is more preferable for its high transparency and availability of diversified types, and being adhesive to a variety of optical films and suffering less temporal changes and aging. It would have been obvious to one of ordinary skill in the art at the time the invention was made use any suitable laminating sealants such as polyurethane, polyethylene, poly(methylacrylate) or ethylene-vinyl acetate (EVA) in the device disclosed by Matsuura in view of Burroughes as suggested

Tahon and more preferable to use EVA for its high transparency and availability of diversified types, and being adhesive to a variety of optical films and suffering less temporal changes and aging. Although Matsuura in view of Burroughes in view of Tahon does not explicitly disclose that EVA comprises an activation temperature (i.e. 80 to 140 °C) which cause to sealant to flow to ensure sealing between the laminated substrate and the device these limitations are considered to be inherent properties of EVA.

84. Regarding claims 38-40, Burroughes discloses the use of a barrier layer on the laminates; the barrier layer inhibits the diffusion of air or moisture wherein the barrier comprises a metal oxide such as indium tin oxide (col. 1/lls.54-60).

85. Regarding claims 41-42, although Matsuura in view of Burroughes in view of Tahon does not explicitly disclose that EVA comprises an activation temperature (i.e. 80 to 140 °C) which cause to sealant to flow to ensure sealing between the laminated substrate and the device these limitations are considered to be inherent properties of EVA.

86. Regarding claim 47, Matsuura in view of Burroughes shows most aspects of the instant invention including a sealant (see Burroughes col. 3/ll. 66-col.4/ll. 4). However, Burroughes does not explicitly disclose examples of suitable materials. Tahon teaches that polyurethane, polyethylene, poly(methylacrylate) or ethylene-vinyl acetate (EVA) are suitable sealants for laminated devices such as OLED and LCD (col. 4/lls. 29-44). Among these sealant EVA is more preferable for its high transparency and availability of diversified types, and being adhesive to a variety of optical films and suffering less

temporal changes and aging. It would have been obvious to one of ordinary skill in the art at the time the invention was made use any suitable laminating sealants such as polyurethane, polyethylene, poly(methylacrylate) or ethylene-vinyl acetate (EVA) in the device disclosed by Matsuura in view of Burroughes as suggested Tahon and more preferable to use EVA for its high transparency and availability of diversified types, and being adhesive to a variety of optical films and suffering less temporal changes and aging. Although Matsuura in view of Burroughes in view of Tahon does not explicitly disclose that EVA comprises an activation temperature (i.e. 80 to 140 °C) which cause to sealant to flow to ensure sealing between the laminated substrate and the device these limitations are considered to be inherent properties of EVA.

87. Regarding claim 48, Burroughes discloses the use of a barrier layer on the laminates; the barrier layer inhibits the diffusion of air or moisture wherein the barrier comprises a metal oxide such as indium tin oxide (col. 1/lls.54-60).

88. Regarding claim 49, Matsuura in view of Burroughes shows most aspects of the instant invention including a sealant (see Burroughes col. 3/ll. 66-col.4/ll. 4). However, Burroughes does not explicitly disclose examples of suitable materials. Tahon teaches that polyurethane, polyethylene, poly(methylacrylate) or ethylene-vinyl acetate (EVA) are suitable sealants for laminated devices such as OLED and LCD (col. 4/lls. 29-44). Among these sealant EVA is more preferable for its high transparency and availability of diversified types, and being adhesive to a variety of optical films and suffering less temporal changes and aging. It would have been obvious to one of ordinary skill in the art at the time the invention was made use any suitable laminating sealants such as

polyurethane, polyethylene, poly(methylacrylate) or ethylene-vinyl acetate (EVA) in the device disclosed by Matsuura in view of Burroughes as suggested Tahon and more preferable to use EVA for its high transparency and availability of diversified types, and being adhesive to a variety of optical films and suffering less temporal changes and aging. Although Matsuura in view of Burroughes in view of Tahon does not explicitly disclose that EVA comprises an activation temperature (i.e. 80 to 140 °C) which cause to sealant to flow to ensure sealing between the laminated substrate and the device these limitations are considered to be inherent properties of EVA.

89. Regarding claim 50, Burroughes discloses the use of a barrier layer on the laminates; the barrier layer inhibits the diffusion of air or moisture wherein the barrier comprises a metal oxide such as indium tin oxide (col. 1/lls.54-60).

90. Claims 22-28, 36-42 and 47-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (US 5,804,917) in view of Burroughes et al. (US 6,592,969) further in view of Tahon et al. (US 6,309,901).

91. Regarding claims 22 and 23, Matsuura in view of Burroughes shows most aspects of the instant invention including a sealant (see Burroughes col. 3/ll. 66-col.4/ll. 4). However, Burroughes does not explicitly disclose examples of suitable materials. Tahon teaches that polyurethane, polyethylene, poly(methylacrylate) or ethylene-vinyl acetate (EVA) are suitable sealants for laminated devices such as OLED and LCD (col. 4/lls. 29-44). Among these sealant EVA is more preferable for its high transparency and availability of diversified types, and being adhesive to a variety of optical films and suffering less temporal changes and aging. It would have been obvious to one of

ordinary skill in the art at the time the invention was made use any suitable laminating sealants such as polyurethane, polyethylene, poly(methylacrylate) or ethylene-vinyl acetate (EVA) in the device disclosed by Takahashi in view of Burroughes as suggested Tahon and more preferable to use EVA for its high transparency and availability of diversified types, and being adhesive to a variety of optical films and suffering less temporal changes and aging. Although Takahashi in view of Burroughes in view of Tahon does not explicitly disclose that EVA comprises an activation temperature (i.e. 80 to 140 °C) which cause to sealant to flow to ensure sealing between the laminated substrate and the device these limitations are considered to be inherent properties of EVA.

92. Regarding claims 24-26, Burroughes discloses the use of a barrier layer on the laminates; the barrier layer inhibits the diffusion of air or moisture wherein the barrier comprises a metal oxide such as indium tin oxide (col. 1/lls.54-60).

93. Regarding claims 27-28, although Takahashi in view of Burroughes in view of Tahon does not explicitly disclose that EVA comprises an activation temperature (i.e. 80 to 140 °C) which cause to sealant to flow to ensure sealing between the laminated substrate and the device these limitations are considered to be inherent properties of EVA.

94. Regarding claims 36 and 37, Takahashi in view of Burroughes shows most aspects of the instant invention including a sealant (see Burroughes col. 3/ll. 66-col.4/ll. 4). However, Burroughes does not explicitly disclose examples of suitable materials. Tahon teaches that polyurethane, polyethylene, poly(methylacrylate) or ethylene-vinyl

acetate (EVA) are suitable sealants for laminated devices such as OLED and LCD (col. 4/lls. 29-44). Among these sealant EVA is more preferable for its high transparency and availability of diversified types, and being adhesive to a variety of optical films and suffering less temporal changes and aging. It would have been obvious to one of ordinary skill in the art at the time the invention was made use any suitable laminating sealants such as polyurethane, polyethylene, poly(methylacrylate) or ethylene-vinyl acetate (EVA) in the device disclosed by Takahashi in view of Burroughes as suggested Tahon and more preferable to use EVA for its high transparency and availability of diversified types, and being adhesive to a variety of optical films and suffering less temporal changes and aging. Although Takahashi in view of Burroughes in view of Tahon does not explicitly disclose that EVA comprises an activation temperature (i.e. 80 to 140 °C) which cause to sealant to flow to ensure sealing between the laminated substrate and the device these limitations are considered to be inherent properties of EVA.

95. Regarding claims 38-40, Burroughes discloses the use of a barrier layer on the laminates; the barrier layer inhibits the diffusion of air or moisture wherein the barrier comprises a metal oxide such as indium tin oxide (col. 1/lls.54-60).

96. Regarding claims 41-42, although Takahashi in view of Burroughes in view of Tahon does not explicitly disclose that EVA comprises an activation temperature (i.e. 80 to 140 °C) which cause to sealant to flow to ensure sealing between the laminated substrate and the device these limitations are considered to be inherent properties of EVA.

97. Regarding claim 47, Takahashi in view of Burroughes shows most aspects of the instant invention including a sealant (see Burroughes col. 3/ll. 66-col.4/ll. 4). However, Burroughes does not explicitly disclose examples of suitable materials. Tahon teaches that polyurethane, polyethylene, poly(methylacrylate) or ethylene-vinyl acetate (EVA) are suitable sealants for laminated devices such as OLED and LCD (col. 4/lls. 29-44). Among these sealant EVA is more preferable for its high transparency and availability of diversified types, and being adhesive to a variety of optical films and suffering less temporal changes and aging. It would have been obvious to one of ordinary skill in the art at the time the invention was made use any suitable laminating sealants such as polyurethane, polyethylene, poly(methylacrylate) or ethylene-vinyl acetate (EVA) in the device disclosed by Takahashi in view of Burroughes as suggested Tahon and more preferable to use EVA for its high transparency and availability of diversified types, and being adhesive to a variety of optical films and suffering less temporal changes and aging. Although Takahashi in view of Burroughes in view of Tahon does not explicitly disclose that EVA comprises an activation temperature (i.e. 80 to 140 °C) which cause to sealant to flow to ensure sealing between the laminated substrate and the device these limitations are considered to be inherent properties of EVA.

98. Regarding claim 48, Burroughes discloses the use of a barrier layer on the laminates; the barrier layer inhibits the diffusion of air or moisture wherein the barrier comprises a metal oxide such as indium tin oxide (col. 1/lls.54-60).

99. Regarding claim 49, Takahashi in view of Burroughes shows most aspects of the instant invention including a sealant (see Burroughes col. 3/ll. 66-col.4/ll. 4). However,

Burroughes does not explicitly disclose examples of suitable materials. Tahon teaches that polyurethane, polyethylene, poly(methylacrylate) or ethylene-vinyl acetate (EVA) are suitable sealants for laminated devices such as OLED and LCD (col. 4/lls. 29-44). Among these sealant EVA is more preferable for its high transparency and availability of diversified types, and being adhesive to a variety of optical films and suffering less temporal changes and aging. It would have been obvious to one of ordinary skill in the art at the time the invention was made use any suitable laminating sealants such as polyurethane, polyethylene, poly(methylacrylate) or ethylene-vinyl acetate (EVA) in the device disclosed by Takahashi in view of Burroughes as suggested Tahon and more preferable to use EVA for its high transparency and availability of diversified types, and being adhesive to a variety of optical films and suffering less temporal changes and aging. Although Takahashi in view of Burroughes in view of Tahon does not explicitly disclose that EVA comprises an activation temperature (i.e. 80 to 140 °C) which cause to sealant to flow to ensure sealing between the laminated substrate and the device these limitations are considered to be inherent properties of EVA.

100. Regarding claim 50, Burroughes discloses the use of a barrier layer on the laminates; the barrier layer inhibits the diffusion of air or moisture wherein the barrier comprises a metal oxide such as indium tin oxide (col. 1/lls.54-60).

Response to Arguments

101. Applicant's arguments with respect to claims 1-50 and 86-100 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

102. Papers related to this application may be submitted directly to Art Unit 2826 by facsimile transmission. Papers should be faxed to Art Unit 2826 via the Art Unit 2826 Fax Center located in Crystal Plaza 4, room 3C23. The faxing of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (15 November 1989). The Art Unit 2826 Fax Center number is **(703) 308-7722** or **–7724**. The Art Unit 2826 Fax Center is to be used only for papers related to Art Unit 2826 applications.

103. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Leonardo Andújar** at **(703) 308-0080** and between the hours of 9:00 AM to 7:30 PM (Eastern Standard Time) Monday through Thursday or by e-mail via Leonardo.Andujar@uspto.gov. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn, can be reached on (703) 308-6601. Any inquiry of a general nature or relating to the status of this application should be directed to the **Group 2800 Receptionist** at **(703) 305-3900.**

104. The following list is the Examiner's field of search for the present Office Action:

Field of Search	Date
U.S. Class / Subclass (es): 257/691; 313/483-512	01/04
Other Documentation:	
Electronic Database(s): East (USPAT, US PGPUB, JPO, EPO, Derwent, IBM TDB)	01/04

Leonardo Andújar
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2/2/04

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